

NASA Workforce Transition Whitepaper
Status of Activities
June 2010

I. Overview

NASA has been preparing for Space Shuttle retirement since 2004, including ongoing activities to facilitate transition of both key NASA civil service employees and contractor employees to other programs. This whitepaper covers NASA's recent workforce transition efforts, in particular the creation of the Space Shuttle Transition Liaison Office (SSTLO) to better facilitate and coordinate these efforts. This whitepaper also provides information on the NASA planned program assignments across the Centers for new or extended activities proposed in the FY 2011 President's budget request. Establishment of the program offices and initiation of efforts in support of new or extended activities is contingent upon Congressional approval of the FY 2011 budget request for NASA.

NASA's focus remains on the safe fly-out of the existing Space Shuttle manifest and completion of the International Space Station (ISS). The upcoming completion of the assembly phase of the ISS represents a tremendous achievement. It is the start of what promises to be a productive and innovative time for orbital research and capability demonstration. However, this also will bring to completion the Space Shuttle Program (SSP) while continuing a major transition within the aerospace industry.

The next update to NASA's *Workforce Transition Strategy* report is currently planned for later this year, though more precise workforce projections will not be available before the FY 2012 President's budget request for NASA. The current edition of the *Workforce Transition Strategy* is available at:

<http://www.nasa.gov/transition/>

The proposed changes to the human spaceflight program in the FY11 budget request will have an impact on civil service and contractor workforce planning. While NASA is not planning reductions to the civil service workforce, the nature of the work done by the civil service workforce would change under the President's FY 2011 budget plan. NASA has also made preliminary program assignments across the Centers for new or extended activities proposed in the FY 2011 budget, helping to clarify the work opportunities for contractors under the proposed portfolio and preparing NASA to execute the work content.

II. Next Steps

To ease the transition for workers dislocated while the new space strategy is being implemented, the Administration has recently announced a comprehensive initiative, funded at a level up to \$100 million, to support economic growth and job training in Florida and other regions around

the country affected the Shuttle retirement and other programmatic changes in NASA's exploration program. Of this amount, \$40M will be used on transition efforts in the area around Kennedy Space Center (KSC) in Florida (with \$30M to spur economic growth in the region, and \$10M dedicated to job training). Up to \$60M will be used on transition efforts in other areas affected by job losses (with up to \$45M to support economic growth in other parts of the Nation impacted by transition, and up to \$15M for job training in those areas).

In addition, State of Florida and county officials have been applying for workforce-related grants through several existing Federal programs. On June 2nd, Secretary Solis of the Department of Labor announced the award of an additional \$15 million in workforce re-training funds for aerospace workers in Brevard County, Florida.

Finally, on April 30, 2010, the Department of Labor also announced a \$1.2 million grant to assist approximately 200 workers affected by layoffs at ATK Launch systems in Corinne, Utah, in connection with the transition of the Space Shuttle and Constellation programs.

In order to help implement this initiative, the President has named the Secretary of Commerce and the NASA Administrator to lead a high-level task force of senior officials from the Departments of Defense, Commerce, and Labor; NASA; and the White House to develop a plan for regional economic growth and retraining dislocated workers to seize new work opportunities. The task force will report its recommendations to the President by August 15. The task force is charged with developing, in collaboration with local stakeholders, an interagency action plan to facilitate economic development strategies and plans along the Space Coast and to provide training and other opportunities for affected aerospace workers so they are equipped to contribute to new developments in America's space program and related industries. They will also explore workforce and economic development activities that could be undertaken for affected aerospace communities in other States, as appropriate.

This interagency group's recommendations will build on the Administration's ongoing efforts around KSC and other regions. The Department of Labor is already planning a pilot program to better assist the region's workers, including those highly-skilled workers who work in the aerospace industry, through efforts to establish local transition centers for affected workers where they can receive coordinated local, state, and Federal workforce assistance tied to economic development efforts; and the designation of single Federal points-of-contact for affected areas.

To further facilitate these efforts, the Department of Commerce's Economic Development Administration (EDA) is prepared to support a comprehensive economic adjustment strategy for the KSC economic region. With funding provided through NASA, the EDA will provide both financial and technical assistance to start implementing those plans and promote economic development in the region through such activities as infrastructure upgrades and improvements, entrepreneurial networks, and the development of skill-training facilities and equipment. The exact mix of activities will depend on the recommendations and requests of local entities across the region.

Working with local and state partners, the EDA also will analyze whether other proven

assistance efforts can be implemented in the area, including: additional economic development resources, such as enhanced capital funding to support efforts to start new technology ventures (based on the specific skills of dislocated engineers); technical assistance to guide public officials, management, and labor through a local economic adjustment effort; and Federal Team Visits to further support local adjustment efforts.

III. Space Shuttle and Completing the Assembly of the ISS

Final Production, Manufacturing, and Operations

Safe, successful execution of the remaining Space Shuttle flights is one of NASA's highest priorities. While production assets (people, hardware, tools) are currently ramping down, most Shuttle engineering and operations capabilities must be maintained through the last mission. Current FY 2010 program funding is sufficient if all flights are flown by September 2010. The Space Shuttle Program funding request for FY 2011 includes \$600M to cover the minimally required workforce and infrastructure needed for safe flight operations through December 2010. This will provide additional margin to fly out the remaining manifest, ensure ISS completion in a stable configuration, honor our commitments to our International Partners, and deploy the Alpha Magnetic Spectrometer (AMS) experiment.

The teams that comprise the human spaceflight workforce are proceeding through this transition based on their specific work assignments. The Space Shuttle production and manufacturing workforce has nearly completed the remaining flight hardware elements for the remaining Space Shuttle flights and the testing of these elements. The Space Shuttle operations workforce continues to prepare for the remaining flights and will be fully engaged through the completion of the final flight and the post-flight processing. The ISS workforce is preparing for the final payloads to be brought to the ISS aboard the Space Shuttle and then to transition to a resupply model centered on U.S. commercial providers and our International Partners. Research aboard the ISS is also accelerating, especially with a full complement of six crew and the development of the U.S. segment of the ISS as a National Laboratory. The Constellation Program continues to proceed with the development of the architecture, as per the provisions of Division B of the Consolidated Appropriations Act of 2010 (P.L. 111-117).

Retention Planning Through Final Work Assignments

NASA is employing a range of tools and activities to retain a trained and experienced Space Shuttle workforce – both civil service and contractor – to safely and effectively complete the last missions. This is a top priority of the Agency. The workforce impacts of Space Shuttle retirement vary depending on the unique economic conditions in each impacted region. NASA and the Space Shuttle contractors are tailoring employee support activities to these conditions.

The team's commitment to the Space Shuttle Program is inspiring and is essential for our success as NASA flies out the remaining Shuttle missions through this calendar year. NASA understands that members of the team will need to do what is right for their families over the

long term. However, NASA's retention planning offers a chance to continue work today on important missions to finish assembly of the ISS.

NASA has conducted four surveys of the civil service workforce, and a fifth is planned for this summer. These surveys are an important tool enabling the Space Shuttle Program to gather data for human capital planning. NASA asks employees about their intent and what motivates them to stay with the Program. From 2006 to 2009, the percent of respondents agreeing or strongly agreeing with the statement "I am likely to stay with SSP through program retirement" increased from 66% to 83%. Also, employees have indicated that they are motivated to stay with the Shuttle Program due to having meaningful work, and their commitment to -- and their ability to make a difference in -- the Space Shuttle Program. In addition, NASA asks supervisors and managers about their confidence to retain both civil service and contractor personnel. There has been an increase of over 30% in the number of supervisors and managers who agree or strongly agree with the statement "As a supervisor/manager, I will have enough of the right people and skills to successfully fly out the Space Shuttle Program."

Completion of Work Assignments and Draw Down of Workforce

Space Shuttle contractors will continue to reduce workforce as production, support, and operations milestones associated with the last flights are completed.

In the past, most of the drawdown activity took place through normal workforce attrition -- primarily by not backfilling positions that became vacant through retirements, reassignments, or other kinds of voluntary separations. Starting in mid-2009, as more production milestones were completed, contractors began increasing the numbers of layoffs, with many of the initial candidates self-nominating to take advantage of separation incentives. Further, the NASA Authorization Act of 2008 (P.L. 110-422) instructed NASA to refrain from taking any actions prior to April 2009 that would preclude the option of flying the Space Shuttle beyond the planned 2010 retirement date; this direction led NASA to retain some Space Shuttle production capabilities for longer than required to complete the manifest.

NASA anticipates a continued draw down of production contractor workforce during FY 2010, with the mission and ground operations workforce experiencing fewer reductions until the last Shuttle mission is completed. From October 2008 to March 2010, the Space Shuttle Program reduced its contractor workforce levels by over 2,700 work-year equivalents (WYEs). And from the end of April to early June 2010, nearly 800 more employees will be laid off (both self-nominated and involuntary.)

Each company is responsible for identifying and notifying the affected employees of any workforce reduction, as well as deciding on the appropriate timing of the reduction. Notifications may be provided under the terms of the Worker Adjustment and Retraining Notification (WARN) Act. NASA does not issue WARN Act notifications; contractors issue them in compliance with provisions of the WARN Act. Not all involuntary reductions meet the criteria of the WARN Act requiring such notifications, so other means of providing notifications may be used.

The circumstances vary for each of the Space Shuttle contractors. Some have other programs/projects available to their employees (whether locally or in another state) and others do not. In addition, economic conditions vary from location to location. As a result, each contractor has developed a comprehensive retention plan tailored to their unique circumstances. While many of the tools are similar, the specifics of the tools and how they are used vary based on the situation. All prime contractors use some type of retention pay to retain critical skilled employees through their last need date. In addition, they offer enhanced supervisor training to improve leadership skills (such as providing feedback, listening, etc.), career development counseling, and opportunities for retraining or cross training. Also, the contractors have increased their communication with employees—from sharing information about internal business development activities to the latest news about NASA activities to expressing appreciation to employees for a job well done. As a result of these activities and economic slowdowns across the country, the voluntary attrition rate for the prime contractors had decreased or remained flat.

IV. Community, Contractor, and Center Partnerships -- The Space Shuttle Transition Liaison Office (SSTLO)

In 2009, NASA established the Space Shuttle Transition Liaison Office (SSTLO) in response to direction in the NASA Authorization Act of 2008 (P.L. 110-422). The Agency was directed to assist local communities affected by the termination of the Space Shuttle program by offering nonfinancial, technical assistance to the identified communities and to identify services available from other Federal, State, and local agencies to assist in such mitigation. Specifically, the Office:

- Serves as a clearinghouse by gathering and disseminating information to the affected communities about opportunities available through other Federal, State, and local agencies; and,
- Serves as a key point of contact for the community beyond NASA for information about how the Agency is working with local communities to provide nonfinancial, technical assistance during transition.

When establishing the office, the NASA chose to build on existing networks and working groups already established within the Space Shuttle Program. This virtual office is headed by a senior manager within NASA's Office of Human Capital Management with support from key leaders within the Centers, contractor companies, and community organizations. At the early meetings, senior NASA Transition Managers spoke about the current status of NASA Programs and activities, the States of Florida and Louisiana shared their best practices, and the SSTLO passed out information on available and proposed Recovery Act grants. Participants at the meetings came from a number of organizations, including NASA Headquarters, the NASA Human Space Flight Centers, Shuttle prime contractors, and state and local organizations in communities affected by Shuttle retirement.

To identify applicable resources and build partnerships with other Federal Agencies, members of the SSTLO met and briefed the Administrator of the Employment and Training Administration,

Department of Labor, held a follow-up briefing with some of her Division Managers, and shared key points of contact. In addition, SSTLO personnel briefed Senior Managers at the Economic Development Administration in the Department of Commerce and shared key points of contact. They also informally benchmarked with the Office of Economic Adjustment, Department of Defense. These meetings led to communication at the state and local level among the workforce and economic development agencies and the affected companies and communities.

In January 2010, the SSTLO hosted a face-to-face Technical Interchange Meeting for representatives from the Human Space Flight Centers, Shuttle prime contractors, the affected communities, and state agencies (workforce and economic development). The participants received overviews of:

- Current NASA programs and plans from the Space Operations Transition Manager;
- The Manufacturing Extension Partnership at the National Institute of Standards and Technology, which helps companies with a range of activities to maintain or increase competitiveness;
- The activities of the Economic Development Administration within the Department of Commerce that are focused on strengthening the economy of communities and regions through: 1) Public Works and Economic Development, 2) Planning, 3) Planning grants, and 4) Technical Assistance Grants; and,
- The workforce planning and implementation process the Department of Defense uses during a base closure (from a representative of the Office of Economic Adjustment).

In addition, a number of the communities shared their current status and best practices. To support the work of the group, the SSTLO developed and implemented a Community of Practice, which includes all of the briefings and information and will serve as a discussion forum and way to share current information.

Other activities include working with the Office of Personnel Management to support a job fair in Florida, participating in community impact discussion in Brigham City, Utah and Las Cruces, New Mexico, working with other Federal agencies that may be interested in the skills of the Shuttle workforce, and beginning the planning for the next face-to-face meeting in early June 2010.

The following is a list of some of the organizations participating in the Space Shuttle Transition Liaison Office activities:

- National
 - Manufacturing Extension Partnership, National Institute of Standards and Technology (NIST), Department of Commerce
 - Employment and Training Administration, Department of Labor
 - Economic Development Administration, Department of Commerce
 - Office of Economic Adjustment, Department of Defense
- Florida
 - Brevard Workforce Development Board
 - Economic Development Commission of Florida's Space Coast

- Louisiana
 - City of New Orleans
 - Louisiana Worker Assistance Program
 - Louisiana Works - Business & Career Solutions Center
- New Mexico
 - New Mexico Regional Development Corp
 - New Mexico Economic Development Commission
 - New Mexico Department of Workforce Solutions
 - New Mexico Industrial Training Board
- Texas
 - Bay Area Houston Economic Partnership
 - Workforce Solutions
 - Houston-Galveston Area Council / Gulf Coast Workforce Board
- Utah
 - Utah Governor's Office of Economic Development
 - Utah Department of Workforce Services
 - Economic Development Corporation of Utah
 - Box Elder County Economic Development Association
 - Brigham City Corporation
- Prime Shuttle Contractors
 - ATK (Alliant Techsystems Inc)—Space Launch Systems
 - Lockheed Martin Space Systems—Michoud Operations
 - Pratt & Whitney Rocketdyne
 - United Space Alliance
- NASA Human Space Flight Centers
 - Johnson Space Center, Texas
 - Kennedy Space Center, Florida
 - Marshall Space Flight Center, Alabama
 - Stennis Space Center, Mississippi

Other Community Partnerships

The Centers have developed unique partnerships with their communities to support the workforce that will be affected by the retirement of the Space Shuttle Program. KSC and JSC both have meetings of the human resource principals—the key human resource managers and leaders from across their local human resource communities. In conjunction with the local Workforce Board, the human resource principals have developed and implemented virtual and live job fairs, resource events, and community databases or websites.

In addition, the Kennedy Space Center (KSC) Human Resources Office is working closely with the Brevard County Workforce Board organization by developing and delivering training on the Federal employment process and honing interviewing skills. Also, KSC has opened Workforce Transition Offices—co-located with the Brevard Workforce Office—to provide services such as Federal web site navigation, resume writing, and interview skills training.

V. NASA Civil Servant Employee Efforts

To help the civil servant employees that will be impacted by the retirement of the Space Shuttle Program, the Agency, Centers and Program have been working closely together to plan the transition and prepare the workforce for this change in their work assignments. As with any major change, the planning and eventual execution occur at many levels. For example, the Centers are supporting the workforce transition at the individual level through increased communication, one-on-one support, and training and development. In addition, the Agency and Centers are working to understand how the President's proposed budget and the recently announced Center work assignments will impact workforce "demands" at each Center.

Communications

Recognizing that in times of uncertainty and change, timely communication becomes even more important, the Agency, Centers, and Program have employed a wide range of tools to share information with employees. All Centers have hosted a number of Center Director All-Hands meetings. These meetings may be for all Center employees, all supervisors, first-line supervisors, Shuttle employees, or other groups. In addition, Senior Space Shuttle Program Leadership also holds similar meetings—from All-Hands meetings to one-on-one employee career counseling.

To help the managers and first-line supervisors, the Shuttle Program and each of the Centers partner to develop Supervisory Talking Points. These are designed to be shared by supervisors and managers in staff or other meetings and typically cover Center-level messaging, change management advice, or the latest on future programs.

Each of the Centers has a Workforce Transition Website that is updated frequently with articles, responses to frequently asked questions, training and development resources, contractor resources, and messages from senior Center leadership. In addition there are links between these websites and other Project-, Program-, or Center-level websites.

Other communication tools include "Transition TIPS" – (Technical Informational Personal)—a one-page document e-mailed monthly to Shuttle employees; "lunch and learn" sessions on Change Management, the Employee Assistance Program, and training opportunities; and briefings on the Center transition efforts.

Employee Support

As stated in section II, over 80% of the Shuttle civil service employees plan to stay with the Program through the retirement of Shuttle. They indicated that they are motivated by their commitment to the Program and NASA and by having meaningful work now and in the future. Currently, NASA does not have specific future work assignments for specific individual employees. However, the Agency can help them prepare for the kinds of work each Center will have and the skills needed to do the work. Each of the Centers is having small group or one-on-one meetings with employees by supervisors, human resources personnel, and/or senior Shuttle

leadership. These meetings focus on Center plans and often include time for individual assessments and an opportunity to build individual training and development plans.

In addition, all of the Centers are partnering with their Employee Assistance Program staff to develop and deliver briefings, tips, and supervisory tools on stress management, job transition, and personal care. Further, the Agency, Program and Centers are partnering a range of events and activities to help employees celebrate and honor their contributions to the Space Shuttle Program. These include awards and certificates, opportunities for memory sharing, increased opportunities to see a Shuttle launch, and activities that include families, such as picnics and Open Houses.

Training and Development

To further support the transition, Centers are employing a range of training and development tools. For example, all have delivered training on career development, transition, and resume writing and interviewing skills. Centers have also held retreats for affected employees. Besides career planning, these retreats typically include sessions on goal setting, training resources, promotion guidelines, and the work of other organizations at the Center. In addition, the Centers have focused on opportunities for employees to develop or enhance their technical skills, including systems engineering or program/project management.

Workforce Planning

Building on current workforce planning systems, the Agency is developing a Transition-specific workforce/job matching tool. Interfacing with the current NASA human resources information systems, the tool helps Centers plan the transition of Shuttle employees to new or existing programs and projects. This helps the Centers identify knowledge gaps, surpluses of skills, and opportunities for retraining. In addition, the tool provides a system for the organizations to post vacant positions and for employees to post resumes and apply for positions—enabling the smooth transition of employees when their work on Shuttle ends.

VI. Planned Program Assignments Across the Centers

On April 8, 2010, NASA announced planned program assignments across the Centers for new or extended activities proposed in the President's FY 2011 budget. Pending enactment of the FY 2011 NASA budget request by Congress, NASA will create new program offices at these Centers to support these planned activities.

Ames Research Center

- Exploration Scouts
- Small Satellite Subsystem Technology
- Edison Small Satellite Demonstrations

Dryden Flight Research Office

- Flight Opportunities

Glenn Research Center

- Exploration Technology Development and Demonstration
- Space Technology Research Grants

Goddard Space Flight Center

- Joint Polar Satellite System
- Decadal Survey Tier 1 Missions

Johnson Space Center

- Flagship Technology Demonstration

Kennedy Space Center

- Commercial Crew
- 21st Century Launch Complex

Langley Research Center

- Game Changing Development

Marshall Space Flight Center

- Heavy Lift Propulsion Research and Development
- Exploration Precursor Robotic Program
- Space Technology Demonstrations
- Centennial Challenges

Stennis Space Center

- Testing Role for Heavy Lift and Propulsion Technology